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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,579	11/21/2003	Kenneth Edward Anthony Omersa	THOM-0029	3246
23377 7590 10/07/2008 WOODCOCK WASHBURN LLP CIRA CENTRE, 12TH FLOOR 2929 ARCH STREET PHILADELPHIA, PA 19104-2891				
EXAMINER HODGE, ROBERT W				
ART UNIT		PAPER NUMBER		
1795				
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10/07/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/719,579

Applicant(s)OMERSA, KENNETH EDWARD
ANTHONY**Examiner**

ROBERT HODGE

Art Unit

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,6-8,10-24,26-28,31-34,36-59,61-66 and 68-74 is/are pending in the application.
- 4a) Of the above claim(s) See Continuation Sheet is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,8,10,13,14,21,23,65,66,68,71,73 and 74 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Continuation of Disposition of Claims: Claims **withdrawn** from consideration are 6,7,11,12,15-20,22,24,26-28,31-34,36-59,61-64,69,70 and 72.

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 7/16/08 have been fully considered but they are not persuasive. Applicant's arguments are not commensurate with the scope of the instant claims. Applicant argues that layer of Shibata is too thin to act as a support however there is nothing in the instant claims that recites any sort of thickness of the layer at hand. Furthermore the term "support" given the broadest most reasonable interpretation does not require that the layer by itself has to support the entire fuel cell stack of cells, other structure can be present for support of all of the layers of the fuel cell stack components and still read on the instant claims especially since applicant has chosen to use open claim language. Applicant further states that Shibata does not teach porous and non porous regions at all. However applicants admit that Shibata teaches a layer that is not continuous or not uniformly dense. Both of these teachings are teachings that there are regions in the layers of Shibata that there will be regions where pores exist and regions where pores don't exist (i.e. the regions between the pores). There is nothing in the claims that requires any sort of dimensions of the porous and non porous regions. Applicant submits in the Attorney remarks and through a declaration that there are problems with using titanium as the material in a solid oxide fuel cell due to the high operating temperatures as well as the absorption of small atoms that will make the titanium brittle. Applicant further submits that they have overcome this problem with the instant invention but provide not comparison data to the modified invention as submitted in the obviousness rejection. It is submitted that Shibata is fully

aware that titanium can be used since it is disclosed in column 8, line 8 and furthermore that both Shibata and Steele recognizes a functional equivalence of the materials see column 8, lines 10-11 in Shibata and paragraph [0014] in Steele. Therefore the conceptual modification of providing a defined porous region bounded by a non porous region from Steele in Shibata would still be an obvious modification to a skilled artisan and the rejections will be maintained.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 73 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 73 recites the limitation "the...interconnects" in lines 1 and 2 of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-3, 8, 10, 13, 14, 21, 23, 65, 66, 68, 71, 73 and 74 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 1225648 hereinafter Shibata in view of U.S. Pre-Grant Publication No. 2002/0048699 hereinafter Steele.

Shibata teaches a solid oxide ceramic fuel cell comprising a non-polymeric electrolyte, a plurality of thin film adhering cathode layers (i.e. foil and is a structural member) that function as interconnects made of titanium (non-alloyed) which are non uniformly dense (i.e. having porous and non-porous regions), wherein a porous and electrically collecting cathode layer is formed on the cathode layer which can comprise titanium or ceramic material and said cathode layer indirectly supports the electrolyte (figure 2 and paragraphs, [0032], [0038], [0039], [0047], [0048] and [0063]). The Examiner notes that no patentable weight has been given to the product-by-process limitations in claims 21 and 23 as to how the porous region is formed as well as the product-by-process limitation found in claim 25 as to how the member is formed, see MPEP 2113 and because the final product has been found in the prior art it reads on the claims as so recited. Shibata further teaches that the solid electrolyte layer is not limited to the materials listed in the disclosure (paragraph [0039]).

Shibata does not teach that the porous region is bounded by the non-porous region or that the electrolyte is cerium gadolinium oxide.

Steele teaches a solid oxide fuel cell comprising a substrate having a porous region bounded by a non-porous region, with an electrolyte coating of cerium gadolinium oxide located thereon (paragraphs [0012], [0014], [0065] and [0066]).

At the time of the invention it would have been obvious to one having ordinary skill in the art in to include cerium gadolinium oxide as the electrolyte and for the porous region to be bound by the non-porous region in Shibata as taught by Steele in order to match the thermal expansion of the different layers with one another so that they don't

separate from each other and to effectively seal the fuel cells so that the reactants don't leak from the fuel cells thus preventing an explosion hazard.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **ROBERT HODGE** whose telephone number is (571)272-2097. The examiner can normally be reached on 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1795

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. H./
Examiner, Art Unit 1795

/Jonathan Crepeau/
Primary Examiner, Art Unit 1795